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Total Number of Pages in This Submission: 19

Application Number	10/759,651
Filing Date	January 16, 2004
First Named Inventor	Jaap de Baan, et al.
Art Unit	3617
Examiner Name	Jesus D. Sotelo
Attorney Docket Number	33474-00007 USPT

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee-Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
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- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):

Remarks

Response to Notification of Non-Compliant Appeal Brief; Postcard acknowledgement

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Strasburger & Price, L.L.P.		
Signature	Alan R. Thiele		
Printed name	Alan R. Thiele		
Date	December 1, 2006	Reg. No.	30,694

CERTIFICATE OF TRANSMISSION/MAILING

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Signature	Bridget M. Cadwell		
Typed or printed name	Bridget M. Cadwell	Date	December 1, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application/Serial No.	:	10/759,651
Applicants	:	Jaap de Baan Ries Uittenbogaard Louis Coulomb
Application Filing Date	:	January 16, 2004
Title	:	CATENARY ANCHOR LEG MOORING SYSTEM
TC/A.U.	:	3617
Examiner	:	Jesus D. Sotelo
Docket No.	:	33474-00007 USPT

TO: Commissioner for Patents
P.O. Box 1450
Alexandra, VA 22313-1450

RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

OBJECTION

The U.S. Patent and Trademark Office has indicated that the Appeal Brief filed in the referenced patent application on February 15, 2006 is defective for failure to comply with 37 CFR 41.37(c)(i)(v) and MPEP 2274, paragraph V. Specifically, pursuant to a telephone notification from Examiner Jesus D. Sotelo, the Summary of the Claims subject matter portion of the appeal brief does not properly refer to the specification by page and line number and to the drawings by reference numbers.

Further, because claim 1 includes means plus function language (35 U.S.C. 112, para. 6) the structure, material or acts corresponding to the claimed function.

RESPONSE TO OBJECTION

The section of the Appeal Brief entitled Summary of the Claimed Subject Matter has been amended to include footnotes specifically designating where each item mentioned in the footnotes is referenced in the specification and in the drawing figures.

Further, the citations to the specification already appearing in the Summary of the Claimed Subject Matter have been expanded.

Finally, an additional paragraph has been added to the Summary of the Claimed Subject Matter indicating where in the claims each of the items described in the Summary of the Claimed Subject Matter appears.

The amended Summary of Claimed Subject Matter section of the appeal brief is reproduced below with explanatory footnotes.

Summary of Claimed Subject Matter (37 CFR 41.37(c)(1)(v))

The claimed subject matter describes the construction of a buoy[1] which continuously floats on the sea surface. Such buoys[1] are often used in offshore locations over subsea oil reservoirs for connection to rigid steel catenary flow lines[2] rising upward from the sea bottom. The rigid steel subsea catenary flow lines[2] are used to conduct hydrocarbons from the subsea reservoirs to the floating buoy[1] on the sea surface. Tanker vessels[3] operating on the sea surface connect flow lines to the floating buoy[1] to receive the hydrocarbons flowing through the catenary flow lines[2] and then carry these hydrocarbons to another location (see specification page 3, paragraph **[0009]** lines 1-7, and Figure 2)—typically an onshore refinery or a temporary storage location.

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[1] The cylindrical hull portion of the first embodiment of the (CALM) buoy assigned reference number 120 in Figure 2 is described in the specification on page 3 in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0012]** in line 12. The cylindrical hull portion of the second embodiment of the (CALM) buoy assigned reference number 220 in Figure 3 is described on page 4 in the paragraph designated **[0013]**, in the lines numbered 12, 14, 16, 17.

[2] The rigid steel catenary flow line assigned reference number 45 in Figure 1 is described in the specification on page 1, in the paragraph designated **[0004]**, in the lines numbered 21 and 23; then on page 2, in the paragraph designated **[0006]** in lines 11 and 16.

[3] The tanker vessel assigned reference number 40 in Figure 1 is described in the specification on page 1, in the paragraph designated **[0004]**, in the lines numbered 18, and 22; then on page 2, in the paragraph designated **[0006]**, in the line numbered 16.

The problem solved by the continuously floating buoy[1] of the present invention is the reduction of the wave and wind generated pitching and rolling of the floating buoy[1] connected to one or more rigid steel subsea catenary flow lines[2]. This reduction of the pitching and rolling of the floating buoy[1] is important because the pitching and rolling of a floating buoy[1] attached to catenary flow lines causes metal fatigue in the catenary flow lines (see specification page 4, paragraph **[0011]** lines 2-4).

The solution to the problem of reduction of the pitching and rolling of the continuously floating buoy[1], which is described and claimed in the pending application, is obtained through constructing the continuously floating buoy[1] according to the elements described in claim 1. Specifically, the buoy[1] is constructed to include: a) a ballast compartment[4] below the sea surface which moves the center of gravity of the continuously floating buoy[1] below the sea surface (page 3, line 1; page 4, lines 17-19; and Figure 2) and b) a ballast compartment[4] design that works against the natural pitch-

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[1] The cylindrical hull portion of the first embodiment of the (CALM) buoy assigned reference number 120 in Figure 2 is described in the specification on page 3 in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0012]** in line 12. The cylindrical hull portion of the second embodiment of the (CALM) buoy assigned reference number 220 in Figure 3 is described on page 4 in the paragraph designated **[0013]**, in the lines numbered 12, 14, 16, 17.

[2] The rigid steel catenary flow line assigned reference number 45 in Figure 1 is described in the specification on page 1, in the paragraph designated **[0004]**, in the lines numbered 21 and 23; then on page 2, in the paragraph designated **[0006]** in lines 11 and 16.

[4] The ballast compartment of the first embodiment assigned reference number 156 in Figure 2 is described in the specification on page 4, in the paragraph designated **[0012]** on line 8. The ballast compartment of the second embodiment assigned reference number 226 in Figure 3 is described on page 4 in the paragraph designated **[0013]** in the lines numbered 14 and 16.

and-roll periods of the continuously floating buoy[1] based on the design and size of the continuously floating buoy[1] (see specification page 3, paragraph **[0009]** lines 2-3).

The buoy appears in lines 3 and 5 of claim 1 and in claims 2, 4, and 5 by virtue of their dependency on claim 1. The rigid steal catenary flow line appears in claim 1, line 12 as "the means for providing a path for oil to travel from the subsea reservoirs to a tanker" and in claims 2, 4, and 5 by virtue of their dependency on claim 1. The tanker vessel appears in line 12 of claim 1 and in claims 2, 4, and 5 by virtue of their dependency on claim 1. The ballast compartment appears in lines 7 and 9 of claim 1, line 2 of claim 2, in claim 4 by virtue or its dependency on claim 1 , and in line 2 of claim 5.

Attached hereto at Appendix A is a clean copy of Appellant's Appeal Brief including the foregoing changes.

[1] The cylindrical hull portion of the first embodiment of the (CALM) buoy assigned reference number 120 in Figure 2 is described in the specification on page 3 in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0012]** in line 12. The cylindrical hull portion of the second embodiment of the (CALM) buoy assigned reference number 220 in Figure 3 is described on page 4 in the paragraph designated **[0013]**, in the lines numbered 12, 14, 16, 17.

Date: Dec 1, 2006

Respectfully submitted,

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Attachments

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application/Serial No.	:	10/759,651
Applicants	:	Jaap de Baan Ries Uittenbogaard Louis Coulomb
Application Filing Date	:	January 16, 2004
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Examiner	:	Jesus D. Sotelo
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TO: Commissioner for Patents
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Alexandra, VA 22313-1450

APPELLANT'S APPEAL BRIEF UNDER 37 C.F.R. 41.37

In response to the Notification of Non-Compliant Appeal Brief under 37 C.F.R. 1.192 dated January 17, 2006, Applicant submits the following corrected Appeal Brief under 37 C.F.R. 41.37.

Real Party in Interest (37 CFR 41.37(c)(1)(i))

Bluewater Energy Services, B.V.
Hoofddorp, The Netherlands

Related Appeals and Interferences (37 CFR 41.37(c)(1)(ii))

None

Status of Claims (37 CFR 41.37(c)(1)(iii))

The referenced patent application was filed with five (5) claims, one (1) independent claim, and four (4) dependent claims.

In the first Office Action, dated September 8, 2004, all five (5) pending claims were rejected.

In the response to the first Office Action, claim 3 was canceled, and claims 1, 2, 4, and 5 remained pending.

In the second Office Action, dated March 31, 2005, claims 1, 2, 4, and 5 were rejected.

In the response to the second Office Action, claims 1, 2, 4, and 5 remained pending.

In an Advisory Action, dated June 7, 2005, the Examiner indicated that the amendments made to the pending claims did not place the pending claims in a condition for allowance.

On July 29, 2005, a Request for Continued Examination was submitted.

Finally, on August 10, 2005, pending claims 1, 2, 4, and 5 were again rejected.

On October 4, 2005, during a telephone conference between the Examiner and the undersigned raising the arguments appearing in this Appeal Brief, the Examiner maintained his rejection of pending claims 1, 2, 4, and 5.

Accordingly, claims 1, 2, 4, and 5 remain pending, and the Applicants hereby appeal the rejection of pending claims 1, 2, 4, and 5.

Status of Amendments (37 CFR 41.37(c)(1)(iv))

No amendments have been submitted in response to the Office Action of August 10, 2005.

Summary of Claimed Subject Matter (37 CFR 41.37(c)(1)(v))

The claimed subject matter describes the construction of a buoy[1] which continuously floats on the sea surface. Such buoys[1] are often used in offshore locations over subsea oil reservoirs for connection to rigid steel catenary flow lines[2] rising upward from the sea bottom. The rigid steel subsea catenary flow lines[2] are used to conduct hydrocarbons from the subsea reservoirs to the floating buoy[1] on the sea surface. Tanker vessels[3] operating on the sea surface connect flow lines to the floating buoy[1] to receive the hydrocarbons flowing through the catenary flow lines[2] and then carry these hydrocarbons to another location (see specification page 3, paragraph **[0009]** lines 1-7, and Figure 2)—typically an onshore refinery or a temporary storage location.

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[1] The cylindrical hull portion of the first embodiment of the (CALM) buoy assigned reference number 120 in Figure 2 is described in the specification on page 3 in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0012]** in line 12. The cylindrical hull portion of the second embodiment of the (CALM) buoy assigned reference number 220 in Figure 3 is described on page 4 in the paragraph designated **[0013]**, in the lines numbered 12, 14, 16, 17.

[2] The rigid steel catenary flow line assigned reference number 45 in Figure 1 is described in the specification on page 1, in the paragraph designated **[0004]**, in the lines numbered 21 and 23; then on page 2, in the paragraph designated **[0006]** in lines 11 and 16.

[3] The tanker vessel assigned reference number 40 in Figure 1 is described in the specification on page 1, in the paragraph designated **[0004]**, in the lines numbered 18, and 22; then on page 2, in the paragraph designated **[0006]**, in the line numbered 16.

The problem solved by the continuously floating buoy[1] of the present invention is the reduction of the wave and wind generated pitching and rolling of the floating buoy[1] connected to one or more rigid steel subsea catenary flow lines[2]. This reduction of the pitching and rolling of the floating buoy[1] is important because the pitching and rolling of a floating buoy[1] attached to catenary flow lines causes metal fatigue in the catenary flow lines (see specification page 4, paragraph **[0011]** lines 2-4).

The solution to the problem of reduction of the pitching and rolling of the continuously floating buoy[1], which is described and claimed in the pending application, is obtained through constructing the continuously floating buoy[1] according to the elements described in claim 1. Specifically, the buoy[1] is constructed to include: a) a ballast compartment[4] below the sea surface which moves the center of gravity of the continuously floating buoy[1] below the sea surface (page 3, line 1; page 4, lines 17-19; and Figure 2) and b) a ballast compartment[4] design that works against the natural pitch-

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[2] The rigid steel catenary flow line assigned reference number 45 in Figure 1 is described in the specification on page 1, in the paragraph designated **[0004]**, in the lines numbered 21 and 23; then on page 2, in the paragraph designated **[0006]** in lines 11 and 16.

[4] The ballast compartment of the first embodiment assigned reference number 156 in Figure 2 is described in the specification on page 4, in the paragraph designated **[0012]** on line 8. The ballast compartment of the second embodiment assigned reference number 226 in Figure 3 is described on page 4 in the paragraph designated **[0013]** in the lines numbered 14 and 16.

and-roll periods of the continuously floating buoy[1] based on the design and size of the continuously floating buoy[1] (see specification page 3, paragraph **[0009]** lines 2-3).

The buoy appears in lines 3 and 5 of claim 1 and in claims 2, 4, and 5 by virtue of their dependency on claim 1. The rigid steal catenary flow line appears in claim 1, line 12 as "the means for providing a path for oil to travel from the subsea reservoirs to a tanker" and in claims 2, 4, and 5 by virtue of their dependency on claim 1. The tanker vessel appears in line 12 of claim 1 and in claims 2, 4, and 5 by virtue of their dependency on claim 1. The ballast compartment appears in lines 7 and 9 of claim 1, line 2 of claim 2, in claim 4 by virtue or its dependency on claim 1 , and in line 2 of claim 5.

Grounds Of Rejection To Be Reviewed On Appeal (37 CFR 41.37(c)(1)(vi))

(Issue No. 1) Whether U.S. Patent No. 5,431,589 to Corona sufficiently teaches the limitations of a buoy which continuously floats on the sea surface with a ballast compartment that works against the natural pitch and roll of the floating buoy to anticipate the disclosed invention described in Claim 1 under 35 USC 102.

(Issue No. 2) Whether U.S. Patent No. 5,431,589 (primary reference) is properly combined with U.S. Patent No. 4,501,525 to Grundy et al. (secondary reference) to sufficiently teach a continuously floating buoy wherein:

a. the ballast compartment is filled with sea water as described in Claim 2;

[1] The cylindrical hull portion of the first embodiment of the (CALM) buoy assigned reference number 120 in Figure 2 is described in the specification on page 3 in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0011]**, in the lines numbered 19, and 21; then on page 4, in the paragraph designated **[0012]** in line 12. The cylindrical hull portion of the second embodiment of the (CALM) buoy assigned reference number 220 in Figure 3 is described on page 4 in the paragraph designated **[0013]**, in the lines numbered 12, 14, 16, 17.

b. the hull portion of the continuously floating buoy is sized to have a diameter greater than two times its height as described in Claim 4; and

c. the ballast compartment is designed to be substantially cylindrical as described in Claim 5;

to render Claims 2, 4, and 5 obvious under 35 USC 103.

Argument (37 CFR 41.37(c)(1)(vii))

The position of the applicant is that the Corona '589 reference neither teaches nor anticipates a continuously floating buoy which is constructed to minimize natural pitch and roll periods while the buoy is floating on the sea surface. Rather, the Corona '589 reference teaches a buoy which simply avoids the problem of dealing with wind and wave forces by going underwater. The inventors named in the instant application discovered that the problem of dealing with wind and wave forces could be confronted with a structural design solution rather than with a solution which allowed the buoy to remain on the sea surface treating the buoy like a submarine; that is going up and down by the filling and the emptying of floatation compartments.

35 U.S.C. 102 anticipation requires identity of invention. Specifically, the claimed invention, as described in appropriately construed claims, must be the same as that of a cited reference in order for the cited reference to anticipate the claimed invention. Glaverbel Société Anonyme v. Northlake Marketing & Supply, Inc., 45 F.3d 1550, 1554, 33 U.S.P.Q.2d 1496, 1498 (Fed. Cir. 1995).

A close reading of the Corona '589 reference reveals that the prior art solution to the problem of reducing the pitching and rolling of the floating buoy is to cause the entire buoy to move underwater below the sea surface in rough wind and sea conditions. Such movement of the buoy below the sea surface takes the buoy taught by the Corona '589 reference out of service. Specifically, the following extracts from the Corona '589 reference teach the up-and-down (floating-submerged) motion of the buoy described in the Corona '589 reference. This up and down motion of the buoy does not anticipate the elements which appear in claim 1 of the instant application. Key words appear in italics.

> "The body 26 has a *controllable buoyancy*, as will be described in further detail herein...." (col. 3, lines 41-42)
>
> "Figure 2 shows the buoy 16 in an *alternate submerged* position, as indicated by the dashed lines, when not in use and in severe sea state conditions, ice accumulation and ice movement are experienced in the anchorage 10." (col. 4, lines 3-7)
>
> "Operation of the buoy 16 to *move between a floating and submerged condition* as carried out by a combined operation of floating suitable ballast compartments within the buoy...." (col. 4, lines 30-33)
>
> "Suitable controls, not shown, may be operated to control the flooding of tanks or compartments 168, 170, 172 and 174 as well as additional ballast tanks 160, 162 and 166, if needed, to control the buoyancy and stability of the buoy 16 as it *moves between a working*

position on the surface 17 and the submerged position." (col. 7, lines 35-42)

In pending independent claim 1 in the instant application, the continuously floating buoy is described as being "non-submersible." The Corona '589 reference teaches a buoy which is taken out of service to a submerged location beneath the sea surface whenever rough wind and sea conditions occur.

Further in pending independent claim 1, the buoy is described as being constructed "for continuous flotation" on the sea surface. The Corona '589 reference teaches a buoy designed for intermittent flotation on the sea surface.

The limitations of being "non-submersible" and designed "for continuous flotation" on the sea surface are not described in the Corona '589 prior art reference relied upon to reject the pending claims. Accordingly, because claim 1 describes a buoy which continuously floats on the sea surface and does not use submersion as the technique for reducing pitch and roll, claim 1 is not anticipated by the Corona '589 reference, as the claimed invention is not the same as the buoy taught by the Corona '589 reference.

Regarding claims 2, 4, and 5, it is the position of the applicant that the Corona '589 primary reference does not provide a proper starting place to begin building a set of references to reject claims 2, 4, and 5 as being taught by a combination of the Corona '589 reference with the Grundy et al. '525 reference. The reasons for this argument are set forth above with regard to the appeal of the rejection of Claim 1 as being anticipated by the Corona '589 reference. There must be some logical reason apparent from positive,

concrete evidence of record that justifies a combination of primary and secondary references. In re Laskowski, 871 F.2d 115, 117, 10 U.S.P.Q.2d 1397 (Fed. Cir. 1989). Herein, the Corona '589 does not include a sufficient teaching to serve as a satisfactory primary reference for combination with the cited secondary reference.

Claim Appendix (37 CFR 41.37 (c)(1)(viii))

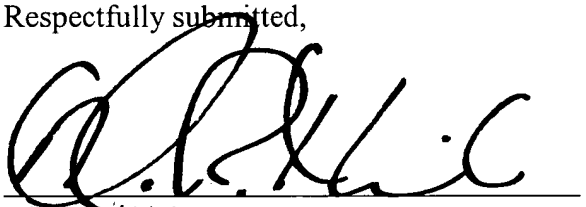
A clean copy of the pending claims is attached hereto at Tab A.

Evidence Appendix (37 CFR 41.37 (c)(1)(ix))

There is no Evidence Appendix to this Appeal Brief.

Date: February 15, 2006

Respectfully submitted,



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Attachments

APPENDIX "A"

Replacement Sheet

CLEAN COPY OF AMENDED CLAIMS

WHAT IS CLAIMED IS:

1. *(Twice amended)* A system for stabilizing a floating catenary anchor leg mooring system used in the production of oil from subsea reservoirs comprising:

a non-submersible hollow buoy assembly for continuous floatation on the sea surface;

said non-submersible hollow floating buoy assembly including a cylindrical hull portion having a center of gravity which is below the sea surface;

said cylindrical hull portion further including a ballast compartment having a portion below the sea surface;

said ballast compartment being constructed and arranged to adjust the natural pitch and roll periods of said non-submersible hollow buoy assembly to reduce pitch and roll in response to wind and wave forces;

means for providing a path for oil to travel from the subsea reservoirs to a tanker.

2. *(Previously amended)* The system for stabilizing a floating catenary anchor leg mooring system as defined in Claim 1 wherein said ballast compartment is constructed and arranged to be filled with sea water.

3. *(Canceled)*

4. *(Previously amended)* The system for stabilizing a floating catenary anchor leg mooring system as defined in Claim 1 wherein said cylindrical hull portion has a diameter which is greater than two times its height.

5. *(Previously amended)* The system for stabilizing a floating catenary anchor leg mooring system as defined in Claim 4 wherein said ballast compartment is substantially cylindrical and follows the circumference of said cylindrical hull portion.